

The following Listing of Claims will replace all prior versions.

Listing of Claims

1. (Withdrawn) A method for forming a coating layer comprising:
assembling a die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, wherein:
 - (a) each of the plurality of fasteners provides a compression force between the first die block and the second die block; and
 - (b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot;
adjusting the compression force on at least one of the plurality of fasteners to the coating slot with a profile having a height uniformity within about 2%; and
extruding a coating material through the internal manifold and the coating slot.
2. (Withdrawn) A method according to claim 1, wherein the plurality of fasteners comprises a forward row of fasteners and a rearward row of fasteners.
3. (Withdrawn) A method according to claim 2, wherein the die coater further comprises an offset bracket for adjusting the compression force of at least one fastener from the forward row of fasteners and at least one fastener from the rearward row of fasteners.
4. (Withdrawn) A method according to claim 1, wherein the coating slot has a height uniformity of within about 1.5%.
5. (Withdrawn) A method according to claim 1, wherein the coating slot has a height uniformity of within about 1%.
6. (Withdrawn) A method according to claim 1, wherein at least two of the plurality of fasteners have a torque difference of greater than about 3%.
7. (Withdrawn) A method according to claim 1, further comprising:

measuring the height of the coating slot using a slot measuring gauge.

8. (Withdrawn) A method according to claim 1, wherein the die coater comprises an overhang of less than about 4.7 inches.
9. (Withdrawn) A method according to claim 1, wherein die coater further comprises an overhang and a first die block thickness wherein the cube of the ratio of die overhang to the first die block thickness is less than about 9.
10. (Currently amended) A die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, wherein:
 - (a) each of the plurality of fasteners provides a compression force between the first die block and the second die block;
 - (b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot; and
 - (c) ~~wherein at least two of the plurality of said fasteners are arranged so that some are rearward fasteners and some are forward fasteners, the forward fasteners being closer to the coating slot of the die than the rearward fasteners,~~
~~said die coater characterized in that at least two of said fasteners, one rearward fastener and the forward fastener nearest said rearward fastener, have a torque differential of greater than about 3%.~~
11. (Currently amended) A die coater according to claim 10, wherein the plurality of fasteners comprises a forward row of fasteners and a rearward row of fasteners in which O_F refers to the distance between a forward fastener and the internal manifold, O_B refers to the distance between the rearward fastener and the die back surface, and the forward and rearward fasteners are spaced symmetrically so that the value of O_F is approximately the same as O_B .
12. (Currently amended) A die coater according to claim 10 44, further comprising an offset bracket for adjusting the compression force between at least one forward fastener from the

~~forward row of fasteners and at least one rearward fastener both of which extend through the offset bracket, from the rearward row of fasteners said offset bracket comprising a forward leg, a rearward leg, an offset arm and having an opening between the forward and rearward legs, the offset arm extending forward of the forward leg, rearward of the rearward leg or being between the forward and rearward legs.~~

13. (Currently amended) A die coater according to claim 12 +0, wherein the coating slot has a height uniformity of within about 1.5%.

14. (Currently amended) A die coater according to claim 12 +0, wherein the coating slot has a height uniformity of within about 1%.

15. (Previously presented) A die coater according to claim 10, wherein at least two of the plurality of fasteners have a torque difference of greater than about 5%.

16. (Currently amended) A die coater according to claim 10, wherein the die coater has an overhang O_H , defined as the linear distance along the first die block surface facing the coating slot of the die from the rear of the die manifold to the leading edge of the die slot, of less than about 4.7 inches 119 mm.

17. (Currently amended) A die coater according to claim 16 +0, wherein the die coater further comprises an overhang and a first die block thickness wherein the cube of the ratio of overhang to thickness of the first die block is less than about 9.

18. (Withdrawn) A method for forming a coating layer comprising: assembling a die coater comprising a first die block, a second die block, an offset bracket, and a plurality of fasteners holding the first die block, the second die block and the offset bracket together, wherein:

(a) each of the plurality of fasteners provide a compression force between the first die block and the second die block;

(b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot; and

(c) at least two of the plurality of fasteners extend through the offset bracket for distributing the compression force between the first die block and the second die block differently than would be provided without the offset bracket; and

extruding a coating material through the internal manifold and the coating slot.

19. (Withdrawn) A method according to claim 18, wherein the offset bracket is constructed to engage at least two of the plurality of fasteners.

20. (Withdrawn) A method according to claim 18, wherein the coating slot has a height uniformity of less than about 2%.

21. (Withdrawn) A method according to claim 18, wherein the coating slot has a height uniformity of less than about 1%.

22. (Withdrawn) A method according to claim 18, wherein the offset bracket comprises an external offset bracket.

23. (Withdrawn) A method according to claim 18, wherein the offset bracket comprises an internal offset bracket.

24. (Currently amended) A die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, and an offset bracket comprising a forward leg, a rearward leg, an offset arm and having an opening between the forward and rearward legs, the offset arm extending forward of the forward leg, rearward of the rearward leg or being between the forward and rearward legs, wherein:

(a) each of the plurality of fasteners provides a compression force between the first die block and the second die block; and

(b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot; and

(c) at least two of the plurality of fasteners extend through the offset bracket for distributing the compression force between the first die block and the second die block differently than would be provided without the offset bracket.

25. (Currently amended) A The die coater according to claim 24, in which one of the fasteners extends through wherein the offset bracket includes an offset arm, a forward leg, and or a rearward leg of the offset bracket, and wherein at least one of the plurality of fasteners extends through the offset arm and not through the a forward leg and or the rearward leg of the offset bracket.

26. (Currently amended) A The die coater according to claim 25 24, for which certain parameters are defined as O_F is the distance between the forward fastener extending through the offset bracket and the internal manifold, O_B is the distance between the rearward fastener extending through the offset bracket and the back surface of the die, S_B is the center-to-center distance between the forward and rearward fasteners, T_{front} is the torque on the forward fastener, and T_{back} is the torque on the rearward fastener, and the relationship of T_{front} to T_{back} is defined by the following equation

$$T_{front} = T_{back} \left[\frac{S_B + O_F - O_B}{S_B - O_F - O_B} \right]$$

wherein the coating slot has a height uniformity of within about 1.5%.

27. (Previously presented) A die coater according to claim 24, wherein the coating slot has a height uniformity of within about 1%.

28. (Previously presented) A die coater according to claim 24, wherein at least two of the plurality of fasteners have a torque difference of greater than about 3%.

29. (Withdrawn) A method for forming a coating layer comprising:

assembling a die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, wherein:

(a) each of the plurality of fasteners provides a compression force between the first die block and the second die block; and

(b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot;

adjusting the location of at least one of the plurality of fasteners to provide the coating slot with a profile having a height uniformity within about 2%; and

extruding a coating material through the internal manifold of the coating slot.

30. (Withdrawn) A method for forming a coating layer comprising:

assembling a die coater comprising a first die block, a second die block, a shim, and a plurality of fasteners holding the first die block and the second die block together, wherein:

(a) each of the plurality of fasteners provides a compression force between the first die block and the second die block; and

(b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot;

selecting the shim to have a non-uniform thickness to provide the coating slot with a profile having a height uniformity within about 2%; and

extruding a coating material through the internal manifold and the coating slot.

31. (Currently amended) A die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, wherein:

(a) each of the plurality of fasteners provides a compression force between the first die block and the second die block;

(b) the first die block and the second die block are constructed to provide an internal manifold and a coating slot;

(c) the die coater ~~comprising~~ has an overhang O_H , defined as the linear distance along the first die block surface facing the coating slot of the die from the rear of the die manifold to the leading edge of the die slot, of less than about 119 mm 4.7 inches; and

(d) the die coater comprising is characterized by a cube of the ratio of overhang to thickness of the first die block of less than about 9.

32. (Currently amended) A The die coater according to claim 31, wherein the quantity defined by the die coater comprises a cube of the ratio of the overhang/thickness ratio to divided by the modulus of elasticity of the first die block is less than about $3.0 \times 10^{-7} \text{ in}^2/\text{lb}$ ($4.35 \times 10^{-5} \text{ MPa}^{-1}$).

33. (Withdrawn) A method for forming a coating layer having a substantially uniform thickness comprising:

assembling a die coater comprising a first die block, a second die block, and a plurality of fasteners holding the first die block and the second die block together, wherein:

(i) each of the plurality of fasteners provides a compression force between the first die block and the second die block; and

(ii) the first die block and the second die block are constructed to provide an internal manifold and a coating slot;

adjusting the die coater to provide the coating slot with a non-uniform profile; and

extruding a coating material through the internal manifold and the coating slot to provide a substantially uniform coating.